

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (currently amended) An injection molding apparatus comprising:
 - a manifold member having a manifold melt channel for delivering a melt stream of moldable material through an outlet thereof;
 - a nozzle member having a nozzle melt channel for delivering the melt stream to a mold cavity;
 - a seal located at an interface between the manifold member and the nozzle member, the seal having a seal melt channel communicating at a first end with the manifold melt channel and at a second end with the nozzle melt channel for receiving the melt stream from the manifold melt channel and delivering the melt stream to the nozzle melt channel; and
 - a biasing element in contact with the nozzle member and the seal to maintain a continuous sealing pressure between the manifold member and the seal nozzle members independent of injection pressure.
2. (previously presented) The injection molding apparatus of claim 1, wherein the seal and biasing element are separately formed.
3. (previously presented) The injection molding apparatus of claim 1, wherein the seal and biasing element are integrally connected.
4. (previously presented) The apparatus of claim 1, wherein the seal is telescopically connected to the nozzle member.
5. (previously presented) The apparatus of claim 1 including, first and second biasing elements cooperating for biasing the seal against the other of the manifold and nozzle members, the first and second biasing elements having different pressure response characteristics.

6. (currently amended) The apparatus of claim 1, wherein the biasing [[bias]] element includes a spring element.

7. (previously presented) The apparatus of claim 4, wherein the spring element is preloaded to apply the sealing pressure at a start-up temperature of the apparatus.

8. (previously presented) The apparatus of claim 1, wherein the seal is movable relative to one of the manifold member and the nozzle member.

9. (previously presented) The apparatus of claim 1, wherein said seal includes a tubular wall extending from a cylindrical ring, said tubular wall being at least partly received in said nozzle melt channel.

10. (currently amended) The apparatus of claim 9, wherein said biasing element is located between an upper surface of a nozzle head of said nozzle member and said cylindrical ring of said seal.

11. (previously presented) The apparatus of claim 1, wherein the seal has a non-flat upper surface.

12. (previously presented) The apparatus of claim 11, wherein the manifold member further comprises a manifold seal insert that has a non-flat surface that engages the non-flat upper surface of the seal.

13. (currently amended) An injection molding apparatus comprising:
a manifold having a manifold melt channel for receiving a melt stream of moldable material;
a nozzle having a nozzle melt channel;
a seal having a seal melt channel located between the nozzle melt channel and the manifold melt channel for delivering melt from said manifold melt channel to said nozzle melt channel; and

a biasing element positioned between said nozzle and said seal that continuously biases said seal against said manifold to provide provides sealing contact between said seal and said manifold and said nozzle to maintain a sealed melt path between said manifold melt channel and said nozzle melt channel.

14. (previously presented) The apparatus of claim 13, wherein said seal is slidable relative to said manifold and said nozzle.

15. (previously presented) The apparatus of claim 14, wherein said seal telescopes within said nozzle melt channel.

Claims 16 -18 (Cancelled).

19. (currently amended) An injection molding apparatus comprising:

 a manifold having a manifold melt channel for receiving a melt stream of moldable material;

 a nozzle having a nozzle melt channel and a nozzle head portion;

 a seal having a seal melt channel located between the nozzle melt channel and the manifold melt channel; and

 a biasing element that makes a first contact with the nozzle head portion and a second contact with the seal to provide a sealing force between the nozzle seal and the manifold.

20. (new) The injection molding apparatus of claim 19, wherein the seal includes a tubular wall extending from an annular ring and the second contact of the biasing element is with a surface of the annular ring.

21. (new) The injection molding apparatus of claim 20, wherein the tubular wall of the seal telescopes within the nozzle melt channel.

22. (new) An injection molding apparatus comprising:

a manifold having a manifold melt channel for receiving a melt stream of moldable material, the manifold melt channel having an outlet positioned within an annular slot in the manifold;

a nozzle having a nozzle melt channel for receiving the melt stream from the manifold melt channel; and

a seal including an annular sealing portion having an integral biasing element radially extending therefrom, the biasing element being positioned between the nozzle and the manifold such that an upper end of the annular sealing portion is received within the manifold annular slot and a lower end of the annular sealing portion is slidable within the nozzle melt channel to position a seal melt channel between the manifold channel outlet and the nozzle melt channel, and wherein the biasing element deforms to accommodate movement of the annular sealing portion relative to the nozzle and the manifold.